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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,718	07/24/2000	Francisco P. Maturana	00AB025	5218

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EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 06/17/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary

Application No.

09/621,718

Applicant(s)

MATURANA ET AL.

Examiner

Carlos Ortiz-Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3,11-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamagishi U.S Patent No. 5,870,604 in view of Kashihara U.S. Patent No. 6,571,147.

Regarding claims 1 and 11, Yamagishi discloses a method of coordinating a plurality of autonomous cooperative units (ACUs) implemented in computers intercommunicating on an electronic network (see abstract lines 1-5) the method comprising the steps of:

- (a) for each ACU identifying potential bid request receivers being a subset of all ACUs of the plurality(see fig 8);
- (b) storing a list of potential bid request receiver in the computer implementing the ACU(see col 2 line 13);
- (c) receiving a description of a job at a given ACU(see fig.4);
- (d) preferentially communicating requests for bids related to the description of the job from the given ACU only with other ACUs of the list of potential bid request receivers;

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whereby communication traffic on the network may be reduced(see fig 1 and abstract lines 7-10).

But Yamagishi fails to clearly disclose the ACUs operating to divide a predefined job among the ACUs by a bidding process realized through an electronic network among the ACUs.

However, Kashihara discloses the ACUs operating to divide a predefined job among ACUs by a bidding process in which bid requests are communicated on the electronic network among the ACUs(see abstract lines 4-13 and fig 2 and col 1 lines 6-33),

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Yamagishi and combining it with the invention disclosed by Kashihara. The results of this combination would lead to global resource locator for autonomous cooperative control system.

One of ordinary skill in the art would have been motivated to do this combination because it is known in the art that this type of process is realized in order to reduce the amount of jobs waiting for execution as disclosed by Yamagishi. In the manufacturing area job transfer control units are frequently utilized in order to reduce production cost and time.

Regarding claims 2 and 20, Yamagishi in combination with Kashihara disclose all the limitations of base claims 1 and 11 as stated above. Yamagishi further discloses a method wherein each ACU is associated with at least one capability describing operations of the process controlled by the ACU and wherein step (a) identifies: potential bid request receivers based on the capability of a given ACU and a relation table relating capabilities of a bidding ACU to capabilities of a potential bid receiver (see fig 4 and col 1 lines 33-43).

Regarding claims 3 and 12, Yamagishi in combination with Kashihara disclose all the limitations of base claims 1 and 11 as stated above. Kashihara further discloses a method of wherein each ACU is associated with capabilities describing operations of the process controlled by the ACU and related to completion of a portion of the job and further including the steps of (e) storing at a designated computer a relation table relating ACUs to capabilities of potential bid request receivers for those ACUs; (f) collecting from each ACU at a designated computer on the network, the capabilities of each ACU(see fig 1 and col); and (g) transmitting from the designated computer on the network to computers implementing a given ACU, potential bid request receivers for the given ACUs based capabilities of other ACUs matching the relation table entry for the given ACU(see fig 4 and col 3 lines 13-25).

3. Claims 4-10 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamagishi U.S Patent No. 5,870,604 in view of Kashihara U.S. Patent No. 6,571,147 and further in view of Gigliotti et al. U.S Patent No. 6,393,458.

Regarding claim 4-6 and 13-15, Yamagishi in combination with Kashihara disclose all the limitations of base claim 3 and 12 as stated above. But they fail to clearly disclose each ACU transmitting its capabilities to the designated computer.

However, Gigliotti discloses a method of wherein each ACU transmits its capabilities to the designated computer upon initialization of the ACU(see fig 5); a method wherein the designated computer also implements at least one of the ACUs(see fig 5); and a method wherein the designated computer stores the capabilities of each ACU in a central registry and wherein the

list of potential bid request receivers transmitted to the given ACU defines a cluster of ACUs smaller than the number of potential bid request receivers held in the central registry(see fig 3).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Yamagishi and Kashihara and combining it with the invention disclosed by Gigliotti.

One of ordinary skill in the art would have been motivated to do this combination in order to balance the distribution of products a designated(central) computer must be utilized. This procedure is commonly realized in the art for reallocation and reapportionment of resources within a system to achieve a uniform or balanced distribution of work or load within a system as suggested by Gigliotti et al.

Regarding claims 7 and 16, Yamagishi in combination with Kashihara and further in combination with Gigliotti et al. disclose all the limitations of base claims 6 and 15 as stated above. Gigliotti further discloses a method wherein the list of potential bid request receivers includes information indicating the likelihood of an ACU on that list being able to complete a portion of a job, and wherein step (d) of preferentially communicating requests for bids from the given ACU to other ACUs on the list of potential bid request receivers includes the steps of (i) reviewing at the given ACU the list of potential bid request receivers for ACUs likely to complete a portion of the job; (ii) when there are no likely ACUs, communicating with the designated computer for a new cluster of ACUs to update the list of potential bid request receivers; (iii) preferentially communicating requests for bids related to the description of the job

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from the given ACU only with other ACUs of the updated list of potential bid request receivers (see fig 3, fig 5 and col 7 lines 20-35).

Regarding claims 8 and 17, Yamagishi in combination with Kashihara and further in combination with Gigliotti et al. disclose all the limitations of base claims 7 and 16 as stated above. Gigliotti et al. further discloses a method wherein the designated computer responds to the communications of step (ii) by providing a new cluster of potential bid request receivers according to the criterion of the ACUs of the new cluster being different from the ACUs of the cluster it replaces (see col 2 lines 63-65).

Regarding claims 9 and 18, Yamagishi in combination with Kashihara and further in combination with Gigliotti et al. disclose all the limitations of base claims 8 and 17 as stated above. Gigliotti et al. further discloses a method wherein at step (ii) the given ACU also communicates to the designated computer that the list of potential bid request receivers does not include an ACU with a desired capability and wherein the designated computer provides a new cluster by changing the relation table relating ACUs to capabilities of potential bid request receivers for those ACUs by adding a new capability of potential bid request receivers of the given ACU(see col 1 lines 51-61).

Regarding claims 10 and 19, Yamagishi in combination with Kashihara and further in combination with Gigliotti et al. disclose all the limitations of base claims 9 and 18 as stated above. Gigliotti et al. further discloses a method wherein the ACU stores historical data

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tracking the likelihood of another ACU accepting a bid request and wherein at step (ii) the given ACU also communicates to the designated computer that list of potential bid request receivers does not include an ACU with a likelihood of accepting a bid request and wherein the designated computer responds by providing a new cluster by using the relation table to identify new potential bid request receivers for the given ACUs based on capabilities of other ACUs matching the relation table entry for the given ACU (see col 6 lines 57-67 and col 7 lines 1-25).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to global resource locator for autonomous cooperative control system:

- a. U.S. Pat. No. 4,748,558 to Hirosawa et al., which discloses load balancing control method for a loosely coupled multi-processor system and a device for realizing same.
- b. U.S. Pat. No. 5,080,970 to Lee et al., which discloses integrated manufacturing system.
- c. U.S. Pat. No. 5,880,965 to Nakamura et al., which discloses method of controlling a sheet metal machining line and apparatus for controlling the same.
- d. U.S. Pat. No. 5,951,634 to Sitbon et al., which discloses open computing system with multiple servers.
- e. U.S. Pat. No. 6,195,590 to Powell, which discloses system for control and resource allocation for the manufacture of a product.
- f. U.S. Pat. No. 6,327,622 to Jindal et al., which discloses load balancing in a network environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

A handwritten signature in black ink, appearing to read 'C. Ortiz-Rodriguez', written diagonally across the page.

Carlos Ortiz-Rodriguez

Patent Examiner

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cror

June 12, 2003

**LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**